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Recra LabNet Philadelphia Analytical Report

W.O.#: 10985-001-001-9999

Date Received: 10-24-97

METALS CASE NARRATIVE

Client: TNU-HANFORD

RFW#: 9710L938

1. This narrative covers the Chromium analysis of 3 TCLP leachate samples.

2. Samples were prepared and analyzed in accordance with methods checked on the attached glossary.

- 3. All analyses were performed within the required holding times.
- 4. The cooler temperature has been recorded on the Chain of Custody.
- 5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within control limits.
- 6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits.
- 7. All preparation/method blanks were within method criteria. Refer to the Inorganics Method Blank Data Summary.
- 8. All ICP Interference Check Standards were within control limits.
- 9. The laboratory control sample (LCS) was within the laboratory control limits. Refer to the Inorganics Laboratory Control Standards Report.
- 10. The TCLP extract from sample BOM6Y3 was selected for the matrix spike (MS) for this analytical batch. The MS recovery was greater than 50% as per method criteria.
- 11. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.

J. Michael Taylor

Vice President and Laboratory Manager

Lionville Analytical Laboratory

ski\m 10-938

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 10 pages (Including page 001A).

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12.4.91

Date

208 Weish Pool Road • Lionville, PA 19341-1333 • (610)-280-3000 • Fax (610) 280-3041

Mulunit learles

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

SDG#: H0109

Laboratory Batch: 9710L938

W.O.#: 10985-001-001-9999-00

Collection Dates: 10-20-97

SAMPLE ID

BOM6X9 BOM6Y1 BOM6Y3 **LABORATORY ID**

9710L938-004 9710L938-005 9710L938-006

skl/m10-938.cp



METALS METHODS GLOSSARY

	ls are used as reference UL938	e for the digestion a	nd analysis of	samples cont	ained within this
Leaching Procedure:	_1310 <u> </u>	2 _Other:			
CLP Metals Digesti	ion and Analysis M	ethods:ILM03.0	_ILM04.0		
Metals Digestion Meth	hods:3005A301 Other:	0A30153020	A3050A	3051206	0.7SS17
		tals Analysis Meth	nde		
	IVIC	tais Alialysis Mcti	ious	EPA	
	SW846	EPA	STD MTD	OSWR	USATHAMA
Aluminum	6010A	200.7			99
Antimony	6010A 7041 ⁵	200.7 204.2			— 99
Arsenic	-6010A -7060A ⁵	200.7 206.2	3113B		
Barium	-6010A	200. 7	_		99
Beryllium	6010A	200.7			99
Bismuth	-6010A 1	200.7 1		1620	99
Boron	6010A ¹	200.7			 99
Cadmium	 6010A 7131A ⁵	200.7 213.2			99
Calcium	-6010A	200.7			99
Chromiur	6010A 7191 5	200.7 218.2			SS17
Cobalt	6010A	200.7			
Copper	6010A 7211 ⁵	200.7 220.2			99
Iron		200.7			99
Lead	6010A 7421 ⁵	200.7 239.2	3113B		
Lithium		200. 7	_	1620	99
Magnesium	6010A	200.7			 99
Manganese	6010A	200.7			
Mercury	7470A ³ 7471A ³	245.1 ² 245.5 ²			_ 99
Molybdenum	6010A	200.7			 99
Nickel	6010A	200.7			
Potassium	6010A 7610 ⁴	200.7			— 99
Rare Earths	6010A ¹	200.7 1		1620	99
Selenium	6010A7740 ⁵	200.7 270.2	3113B		99
Silicon	6010A ¹	200.7	_	1620	99
Silica	6010A ¹	200.7		1620	— ₉₉
Silver	6010A7761 ⁵	200.7 272.2			— ₉₉
Sodium	6010A7770 ⁴	200.7273.1 4			99
Strontium	6010A	200.7			99
Thallium	6010A7841 ⁵		0.9		99
Tin	6010A 1				— ₉₉
Titanium	6010A [†]	200. 7			99
Uranium	6010A ¹	200.7 1		1620	— ₉₉
Vanadium	6010A	200.7		_	— 99
Zinc	6010A	200.7			— 99
Zirconium	6010A ¹	200.7 ¹		_1620	99
Other:	Method	• •			002

RFW 21-21-033/M-01/97

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

- U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- * = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.

MS = Matrix Spike.

MSD = Matrix Spike Duplicate.

REP = Sample Replicate

LCS = Laboratory Control Sample.

NC = Not calculated.

ANALYTICAL METAL METHODS

- 1. Not included in the method element list.
- 2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).
- 3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).
- 4. Flame AA.
- 5. Graphite Furnace AA.

RFW 21-21L-033/N-10/96

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 11/10/97

CLIENT: TNU-HANFORD RECRA LOT #: 9710L938

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
	=======================================	=======================================	*****		======:.	
-004	BOM6X9	Chromium, TCLP Leachate	3540	UG/L	1.1	1.3
-005	BOM6Y1	Chromium, TCLP Leachate	3290	UG/L	3.1	1.0
-006	BOM6Y3	Chromium, TTLP Leachate	118	UG/L	3.1	1.0

Recra LabNet - Lionville Laboratory INORGANIC ANALYTICAL DATA PACKAGE FOR TNU-HANFORD

DATE RECEIVED: 10/24/97 RFW LOT # :9710L938 MTX PREP # COLLECTION EXTR/PREP CLIENT ID /ANALYSIS RFW # ANALYSIS BOM6X9 001 S 97LT0197 10/20/97 10/29/97 10/30/97 TCLP BOM6Y1 TCLP 002 S 97LTO197 10/20/97 10/29/97 10/30/97 BOM6Y3 TCLP 003 S 97LT0197 10/20/97 10/29/97 10/30/97 BOM6X9 CHROMIUM, TCLP LEACH 004 W 97L2196 10/30/97 11/05/97 11/06/97 BOM6Y1 CHROMIUM, TCLP LEACH 005 W 97L2196 10/30/97 11/05/97 11/06/97 BOM6Y3 CHROMIUM, TCLP LEACH 006 W 97L2196 10/30/97 11/05/97 11/06/97 CHROMIUM, TCLP LEACH 006 MS W 97L2196 10/30/97 11/05/97 11/06/97 LAB QC: W 97L2196 N/A 11/05/97 11/06/97 CHROMIUM LABORATORY LC1 BS W 97L2196 CHROMIUM, TCLP LEACH MB1 CHROMIUM, TCLP LEACH MB2 CHROMIUM, TCLP LEACH MB3 CHROMIUM, TCLP LEACH MB4

RECRA LabNet Use Only

Custody Transfer Record/Lab Work Request



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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Date: 11-26-97

Laboratory Batch: 9710L938

W.O.#: 10985-001-001-9999-00

Collection Dates: 10-20-97

SAMPLE NUMBER	LAB SAMPLE III
BOM6X9	9710L938-001,007
BOM6Y1	9710L938-002,008
BOM6Y3	9710L938-003 009



njp/938.cp

Virtual Laboratories Everywhere

Recra LabNet Philadelphia Analytical Report

DEC 1997
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Data
Log In

W.O. #: 10985-001-001-9999-00

Date Received: 10-24-97

Client: TNU-HANFORD

RFW#: 9710L938 **SDG#**: H0109

INORGANIC CASE NARRATIVE

1. This narrative covers the analyses of 3 soil samples.

- 2. The samples were prepared and analyzed in accordance with the methods checked on the attached glossary.
- 3. Sample holding times as required by the method and/or contract were met.
- 4. The cooler temperature was recorded on the chain-of-custody.
- 5. The method blank for Nitrate was within method criteria.
- 6. The Laboratory Control Sample (LCS) was within the laboratory control limits.
- 7. The matrix spike recoveries were below the 75-125% control limits. The matrix spike duplicate was within the 20% Relative Percent Difference (RPD) control limit.
- 8. The replicate analysis was within the 20% RPD control limit.
- 9. Results for solid samples are reported on a wet weight basis.

J. Michael Taylor

Vice President and Laboratory Manager

Lionville Analytical Laboratory

njp\i10-938

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 13 pages.

2297

Date

WET CHEMISTRY METHODS GLOSSARY FOR ANALYSIS OF SOIL/SOLID SAMPLES

	<u>ASTM</u>	SW846	<u>OTHER</u>
™oAsh	D2216-80		
%Moisture	D2216-80		ILMO4.0 (e)
%Solids			ILMO4.0 (e)
%Volatile Solids	_ D2216-80		
ASTM Extraction in Water	D3987-81/85		
BTU	D240-87		
CEC		9081	_ ·
Corrosivity _by coupon _by pH		1110 (mod) 9045	
Cyanide, Total		9010	_ ILMO4.0 (e)
Cyanide, Reactive		Sec 7.3	
Density			_ b
Halides, Extractable Organic			EPA 600/4/84-008 (mod)
Halides, Total			_ EPA 600/4/84-008 (mod)
EP-Toxicity		1310A	
Flash Point		1010	
Ignitability		1010	
Carbon, Total Organic (by LOI)			C
Oil and Grease		_ 9071A	
Carbon, Total Organic		9060	_ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	$\sqrt{D240-87 \text{ (mod)}}$	_ 5050	
Petroleum Hydrocarbons, Total Re	ecoverable	- 9071	EPA 418.1 (mod)
pH, Soil		9045B	
Sulfide, Reactive		Sec 7.3	
Specific Gravity	D1429-76C		
Sulfur, Total		9056	
TCLP		<u> </u>	
TCLV		1311	
Synthetic Precipitation Leach		1312	
Chlorine, Total		9056	
Paint Filter		$-\frac{9095}{1}$	
Other: The by 1	Method:	S EPA 300-C	

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

- U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- * = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.

MS = Matrix Spike.

MSD = Matrix Spike Duplicate.

REP = Sample Replicate

LC = Laboratory Control Sample.

NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

- 1. ASTM Standard Methods.
- 2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).
- 3. Test Methods for Evaluating Solid Waste (USEPA SW-846).
- a. Standard Methods for the Examination of Water and Waste, 16 ed., (1989).
- b. <u>Standard Methods for the Examination of Water and Waste</u>, 17 ed., (1983)
- c. <u>Method of Soil Analysis</u>, Part 1, Physical and Mineralogical Methods, 2nd. Ed. (1986)
- d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965)
- e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.
- f. Code of Federal Regulations.

RFW 21-21L-034/D-06/96

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 11/14/97

CLIENT: TNU-HANFORD RECRA LOT #: 9710L938

WORK ORDER: 10985-001-001-9999-00

					REPORTING	DILUTION
SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	LIMIT	FACTOR
				= =====	========	
-007	BOM6X9	Nitrate by IC	12	ı MG/KG	12	1.0
-008	BOM6Y1	Nitrate by IC	120	ı MG/KG	120	10
-009	вомечз	Nitrate by IC	250 t	MG/KG	250	20

Recra LabNet - Lionville Laboratory INORGANIC ANALYTICAL DATA PACKAGE FOR TNU-HANFORD

DATE RECEIVED: 10/24/97 RFW LOT # :9710L938 CLIENT ID /ANALYSIS RFW # MTX PREP # COLLECTION EXTR/PREP ANALYSTS BOM6X9 CALORIMETER BOMB PRE 001 S 97BOMB39 10/20/97 11/07/97 11/07/97 TCLP 001 S 97LTO197 10/20/97 10/29/97 10/30/97 BOM6Y1 CALORIMETER BOMB PRE 002 S 97BOMB39 10/20/97 11/07/97 11/07/97 TCLP 002 S 97LTO197 10/20/97 10/29/97 10/30/97 BOM6Y3 CALORIMETER BOMB PRE 003 S 97BOMB39 10/20/97 11/07/97 11/07/97 TCLP 003 S 97LTO197 10/20/97 10/29/97 10/30/97 BOM6X9 NITRATE BY IC 007 S 97L3C095 10/20/97 11/08/97 11/08/97 BOM6Y1 NITRATE BY IC 800 S 97L3C095 10/20/97 11/08/97 11/08/97 BOM6Y3 NITRATE BY IC 009 S 97L3C095 10/20/97 11/08/97 11/08/97 NITRATE BY IC S 97L3C095 10/20/97 11/08/97 009 REP 11/08/97 NITRATE BY IC 009 MS S 97L3C095 10/20/97 11/08/97 11/08/97 NITRATE BY IC 009 MSD S 97L3C095 10/20/97 11/08/97 11/08/97 LAB QC: NITRATE BY IC MB1 S 97L3C095 N/A 11/08/97 11/08/97 NITRATE BY IC MB1 BS S 97L3C095 N/A11/08/97 11/08/97

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Custody Transfer Record/Lab Work Request



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PAGE 1 Thermo MUtech CHAIM OF CUSTODY ORD # N7-10-071

RCVD: 10/23/97 DUE: 12/04/97 10/23/97 14:55:46 KEEP: 12/04/98 DISP: S

DASH S	SAMPLE IDENTIFICATION	STORED	TESTS
01A-X E			WB303 WB312 WB464
02A-X E	BOM6Y1	RECRA-LAB	WB303 WB312 WB464
03A-X B	вометз	RECRA-LAB	WB303 WB312 WB464
	OM6Y3 MS		WB312 WB464
	SOM6Y3 DUP		WB312 WB464

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
+yamomoto	1023 197	RECRA LAB	10/20/97		
<u> </u>					

Bechtel Hanford In	ic.	CHA	IN OF CUSTO	DY/SAM	PLE A	NALYSI	S REQU	JEST			B98-015-0	1 Pag	ge 1 of
DL Bowers/RJ Neilson		C	ompany Contact Ed Rafuse		phone No. 1-0684	 		Project Coo			Data Turnarou	nd	
100-HR-3 Pump & Treat - Resin	Sampling FY 98	Sa	unpling Location 100 HR-3		- -		· · · · · · · · · · · · · · · · · · ·	SAF No. B98-015			4:	5 Day	/S
GW5044		Fi	eld Logbook No. EFL 1133-5			<u>,</u> _		Method of S Fed Ex	Shipment				
upped 10 TMA/WESTON		O	fisite Property No.					Bill of Ladi	ng/Air Bill ?	No.			
Possible radioactive	S/REMARKS		Preservation	None	None	None	None	None	None	None		_ _	
			Type of Container	96 R	به ^{وا} د	a.G	#O	aG	#G	øG			
·			No. of Container(s)	1	1	1	1	1	1	1			
cool to 4C			Volume	60 m/R		60ml	60ml	120ml	250ml	500ml			
	SAMPLE A	inalysis DG	40109	Activity Scan	Isotopie Umnium	Strontium- 89,90 — Sr-90	Technetium-99	Tritium - H3	IC Aniona - 300.0 (Nitrogen in Nitrate)	Metals by It (TCLP) - 1311/6010 (Chromius	.		
Sample No.	Matrix *	Sample Date	Sample Time	S. 10. 10.		6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Communication of the second control of the s		·, § 4 IA A	a de la compania del compania de la compania del compania de la compania del compania de la compania de la compania de la compania del compania de la compania de la compania de la compania de la compania de la compania de la compania de la compania de la compania de la compania dela compania del compania del compania del compania del compania de		· · · · · · · · · · · · · · · · · · ·
BOMbX9	X20	10/20/97	1250	X	Χ	X	X	Χ	X	Χ	8014		
BOM6Y1	ΧSD	10/20/97	1309	X	X	X	X	X	X	X	ROM		
BOM643	<u> </u>	10/20/97	1321	X	X	7	Χ	Х.	Κ.	*	Bond	· Y 4	
CHAIN OF POSSESSION		Sign/Print N			SPECIAL Prior	INSTRUCT	ions enely	sys es	fol	1045		s	Matrix * - Soil - Sediment
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Relinquished By Dales Relinquished By	Date/Time Date/Time	Received By	10/24/97 DATE/T	0930			•					T WI L V	 Tissue Wipe Liquid Vegetation Other
I.ABORATORY Received By SECTION			 	Title	 	· •			·		Date/Tir	ne ne	
FINAL SAMPLE Disposal M. DISPOSITION	ethod				- <u>-</u>	Disposed B	у				Date/Tu	me	

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Case Narrative

1.0 GENERAL

Thermo NUtech Sample Delivery Group H0109 is comprised of the three resin samples designated as SAF B98-015 delivered under Project Designation 100-HR-3 Pump & Treat - Resin Sampling FY98

The samples were received as stated on the Chain-of-Custody document.

2.0 ANALYSIS NOTES

2.1 Tritium Analyses

All of the aliquots were slightly less than the method limit of 20g. All sample MDA's were less than the RDL despite the reduced aliquots.

2.2 Isotopic Uranium Analyses

No problems were encountered with the analyses.

2.3 Strontium-90 Analyses

No problems were encountered with the analyses.

2.4 Technetium-99 Analyses

All sample aliquots were reduced to approximately 1g based on the gamma ray energy analysis reports received with the samples. All sample MDA's were greater than the RDL due to the reduced aliquots, however since all the samples contained Tc-99 activity much greater than either the MDA or the RDL the slightly increased MDA's are not a problem.



TMA/RICHMOND

SAMPLE DELIVERY GROUP H0109

SDG 7458
Contact N. Joseph Verville

SAMPLE SUMMARY

Client Westinghouse Hanford

Contract TSH-SVV-207925

Case no <u>SDG H0109</u>

CLIENT SAMPLE ID	LOCATION	MATRIX LEVEL	LAB SAMPLE ID	SAF NO	CHAIN OF CUSTODY	COLLECTED
BOM6X9	100 HR-3	SOLID	N710073-01	B98-015	B98-015-01	10/20/97 12:5
BOM6Y1	100 HR-3	SOLID	N710073-02	B98-015	B98-015-01	10/20/97 13:0
BOM6Y3	100 HR-3	SOLID	N710073-03	B98-015	B98-015-01	10/20/97 :3:1
Method Blank		SOLID	N710073-05	B98-015		
Lab Control Sample		SOLID	N710073-04	B98-015		
Duplicate (N710073-01)	100 HR-3	SOLID	N710073-06	B98-015		10/20/97 (2:5

SAMPLE SUMMARY
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SUMMARY DATA SECTION
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 WHC-HASM-1

 Version
 Ver 1.0

 Form
 DVD-CS

 Version
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 Report date
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TMA/RICHMOND

SAMPLE DELIVERY GROUP H0109

N710073-06

DUPLICATE

BOM6X9

SDG <u>7458</u>

Lab sample id N710073-06

Dept sample id 7458-006

Contact N. Joseph Verville

DUPLICATE

ORIGINAL
Lab sample id N710073-01

Dept sample id <u>7458-001</u>

Received <u>10/23/97</u>

Client/Case no Westinghouse Hanford SDG H0109

Case no TSH-SVV-207925

Client sample id BOM6X9

Location/Matrix 100 HR-3 SOLID

Collected 10/20/97 12:50

Custody/SAF No <u>B98-015-01</u> <u>B98-015</u>

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALI- FIERS	RPD %	3σ PROT
Tritium	1.5	0.095	0.093	0.50		н	1.5	0.098	0.097		()	06
Strontium 90	0	0.99	0.28	1.0	Ŭ	Y	0	0.96	0.27	IJ		
Technetium 99	590	6.4	0.65	0.50		TC	650	7.0	0.64		1.0	11
Uranium 233/234	0.20	0.030	0.016	0.30	J	U	0.22	0.032	0.019	J	10	3.3
Uranium 235	0.021	0.011	0.011	0.30	J	U	0.022	0.012	0.009	J	c,	. 14
Uranium 238	0.18	0.026	0.010	0.30	Ĵ	ט	0.20	0.028	0.011	J	1.1	32

QC-DUP#1 27578

DUPLICATES

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Lab id <u>TMANC</u>

Protocol WHC-HASM-1

Version Ver 1.0

Form <u>DVD-DUP</u> Version <u>3.06</u>

Report date <u>11/24/97</u>

TMA/RICHMOND SAMPLE DELIVERY GROUP H0109

N710073-01

DATA SHEET

BOM6X9

SDG <u>7458</u>

Contact N. Joseph Verville

Client/Case no Westinghouse Hanford SDG_H0109

Case no TSH-SVV-207925

Lab sample id <u>N710073-01</u>

Dept sample id <u>7458-001</u>

Received 10/23/97

Client sample id BOM6X9

Location/Matrix 100 HR-3

SOLID

Collected <u>10/20/97 12:50</u>

Custody/SAF No <u>B98-015-01</u> <u>B98-015</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	1.5	0.098	0.097	0.50		Н
Strontium 90	10098-97-2	0	0.96	0.27	1.0	U	Y
Technetium 99	14133-76-7	650	7.0	0.64	0.50		TC
Uranium 233/234	U-233/234	0.22	0.032	0.019	0.30	J	U
Uranium 235	15117-96-1	0.022	0.012	0.009	0.30	J	U
Uranium 238	U-238	0.20	0.028	0.011	0.30	J	บ

DATA SHEETS

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TMA/RICHMOND

N710073-02

SAMPLE DELIVERY GROUP H0109

DATA SHEET

BOM6Y1

1	7458 N. Joseph Verville		Westinghouse Hanford SDG H0109 TSH-SVV-207925	
Lab sample id Dept sample id Received	· · · · · · · · · · · · · · · · · · ·	Client sample id Location/Matrix Collected Custody/SAF No	100 HR-3 SOLID 10/20/97 13:09	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	1.7	0.10	0.098	0.50	•	Н
Strontium 90	10098-97-2	0	0.95	0.25	1.0	U	Y
Technetium 99	14133-76-7	280	4.8	0.69	0.50		TC
Uranium 233/234	U-233/234	0.35	0.039	0.020	0.30		U
Uranium 235	15117-96-1	0.025	0.011	0.011	0.30	J	U
Uranium 238	U-238	0.27	0.033	0.010	0.30	J	U

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TMA/RICHMOND SAMPLE DELIVERY GROUP H0109

N710073-03

DATA SHEET

BOM6Y3

	<u>TSH-SVV-207925</u>
Lab sample id N710073-03 Client sample id Dept sample id 7458-003 Location/Matrix Received 10/23/97 Collected Custody/SAF No	100 HR-3 SOLID 10/20/97 13:21

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	1.8	0.11	0.11	0.50		Н
Strontium 90	10098-97-2	-0.043	0.11	0.25	1.0	U	Y
Technetium 99	14133-76-7	160	3.4	0.80	0.50		TC
Uranium 233/234	U-233/234	3.1	0.14	0.033	0.30		U
Uranium 235	15117-96-1	0.34	0.041	0.011	0.30		U
Uranium 238	U-238	2.4	0.12	0.028	0.30		U

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 11/24/97

Bechtel Hanford Ir	nc.	CHA	AIN OF CUSTO	DY/SAM	PLE A	NALYSI	S REQ	UEST			B98-015-0	1 Page	: 1 4: 1	
Collector DL Bowers/RJ Neilson	<u></u>		Company Contact Telephone No. Ed Rafuse 531-0684					Project Coordinator KOERNER, CC			Data Turnaround			
Project Designation 100-HR-3 Pump & Treat - Resin	1 Sampling FY 98		Sampling Location 100 HR-3					SAF No. B98-015			45 Days			
Ice Chest No. GWS044			Field Logbook No. EFL 1133-5					Method of Shipment Fed Ex						
Shipped To TMA/WESTON			Offsite Property No.					Bill of Ladi	ng/Air Bill l	No.				
POSSIBLE SAMPLE HAZARDS Possible radioactive	S/REMARKS		Preservation	None	None	None	None	None	None	None				
			Type of Container	aG R	به ا	₽G.	вG	#G	вG	aG				
			No. of Container(s)	1	1	1	1	1	1	1				
Special Handling and/or Storage cool to 4C			Volume	60 m 1	ار 60ml	60ml	60ml	120ml	250ml	500ml		! <u>-</u>		
	SAMPLE AN	(ALYSIS	40109	Activity Scan	Isotopie Uranium	Strontium- 89,90 Sr-90	Technetium-9	Tritium - H3	IC Anions - 300.0 {Nitrogen in Nitrate}	Metals by It (TCLP) - 1311/6010 (Chromius	A		60	
Sample No.	Matrix *	Sample Date	Sample Time	State of the Marketon and State of the State	gas es con les es e Mentennes comb	er en en en en en en en en en en en	est er volke prés Yug เป็นอาสต์เห็น เราะเลย	eki teri talapar kilasa da Kabuhada Kibasata sasa	an arasina. Amerikanan	ararangan mahaman	uu uu uu <mark>uu</mark> u Saasaa saasaa			
BOMbX9	X26	10/20/97	1250	Χ.	Χ	X	X	Χ	X	Χ	0016			
BOM641	XS0	10/20/97	1309	X	X	X	X	X	X	X	BOM	۰Y2		
BOM 643	X SD	10/20/97	1321	X	<u> </u>	*	- X	<u>X</u>	<u> </u>	*	Bond	<u>, Y 4</u>		
CHAIN OF POSSESSION		Sign/Print I			SPECIAL Prior	INSTRUCT	ions ensly	575 45	fol	1045		S · SE ·	Matrix * Soil Sediment	
	elinquished By Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time				11 619 3 511 111					and w -				
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Relinquished By	Date/Time	Received By	Date/Ti	ime	1							L V	 Liquid Vegetation Other 	
LABORATORY Received By SECTION				Title	<u> </u>				· <u>···</u> ·		Date/Ti	ne		
FINAL SAMPLE Disposal Met DISPOSITION	thod					Disposed By	,				Date/Tir	ne		

Contractor

White - Property Management

Yellow - Shipping

OFF-SITE PROPERTY CONTROL

(To be obtained from PROPERTY MANAGEMENT)

[b			COMPLETED BY ORIGINATOR	Linit -	
Department	.Support s	E VI	- Analytical Sag	Unit F CIV	Samily
The followi	ng items are to be shipped fro	om	Contractor Ven	dor	
Routing	Fod Ex		Prepaid Colle	ect	
	NORCAL		Off-site Custodian		
Company 2030	Wright Ave		Ì	-	
	and state Zigi	804-99-	On-site Custodian		Payroli No.
l ' '	State Zip (code ' ' '	1		
Country USA	.		Marie Francisco Marie Marie Sa	-i-/ A/- 3	A - pulisiti C
Qty. Property No.	Desch	puon <i>vnciuae</i>	Manufacture Name, Model, Se	mai iyo.)	Acquisition Cost
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CERTIFICATION OF THE	E RADIATION MONITORING	RELEASE MUS	T BE SECURED THE SAME DA	Y THAT MATERIAL IS DELIVE	RED TO SHIPPING
RM Clearance for Public			RM Survey No.		Date
11/1 A and	a Bowers				10-27-97
Location of and Contact	for Property (Name/Phone No.	./Bidg./Aree)	- - -		·
Date Ready for Shipment		Cost Code to	o be Charged	Approximate Date This	
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Doug Boi	wers	10-23.	97 Dang Ba	wen	10-22-97
Property Representative	Signature	Date	Property Management A	Approval	Date /
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Authorized Shipping Sign		ART II - TO BE	COMPLETED BY SHIPPING		/ /
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Green - Accounts Payable

Pink - Originator

Goldenrod - Property Management

REF: r10hr3c560 A98-0-002

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IRK* 4235 7950 5370 For 820! Deliver by:
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